Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

The same number contains an elaborate paper on the life history of *Lemna minor*, by Otis W. Caldwell.

Möllers Deutsche Gärtner-Zeitung of January 14 contains an article on Mexican orchids in their native home, by Othon Krieger, which is illustrated by reproductions of two photographs presenting a very vivid picture of the abundance of these epiphytes of our plant-houses and of the difficulties attending their collection.

Botanists who may make the acquaintance of the white ash of Australia will not find a species of Fraxinus, but a Eucalyptus, which has been described and figured by Deane and Maiden in No. 91 of the *Proceedings of the Linnæan Society of New South Wales* under the name *E. fraxinoides*. The same number contains descriptions and figures of two additional species of Eucalyptus, by R. T. Baker.

GEOLOGY.

The Isthmus of Panama, as has been shown by a geological reconnoissance made by R. T. Hill,[1] is an ancient mountain range much reduced in height and deeply dissected by erosion. The drainage system is well developed and consists of several principal streams, which have many rapidly flowing branches near their sources, but comparatively long, low-grade trunks into which the tides extend many miles from the sea. The larger streams generally are characterized by drowned mouths and actively corrading head waters.

There is an absence on each border of the isthmus of a coastal plain, similar to that on the Gulf and Atlantic borders of the United States. The uplands come boldly down to the sea in a series of bluffs and headlands, separated by the partially drowned valleys. On each shore, however, there is a submerged platform, which extends out to about the 100-fathom line, where the bottom descends rapidly into water of great depth. The topography of these submerged shelves indicates that they were formerly coastal plains across which the present streams were extended and excavated channels. A downward movement of the land has submerged the former coastal plain and given origin to coastal swamps, and permitted the encroachment of the sea far up the ancient, low-grade valleys.

---

[1] Hill, R. T. The Geological History of the Isthmus of Panama and Portions of Costa Rica. Based on a reconnoissance made for Alexander Agassiz. *Bulletin of the Museum of Comparative Zoölogy at Harvard College*, vol. xxviii (1898), No. 5, pp. 151–285, with 19 plates.

The lowest pass across the isthmus, which is a drainage col between the head waters of two opposite flowing streams, is but 287 to 295 feet above the ocean. If the isthmus should subside about 300 feet, a connection would be made between the waters of the Atlantic and the Pacific. None of the passes through the mountains, however, give evidences of ever having been straits connecting the bordering oceans. One of the most important conclusions reached by Hill from several lines of investigation, is that there has been no oceanic connection across the isthmus since Tertiary time. There is, indeed, considerable evidence that this land barrier has existed since Jura-Trias time, with perhaps a shallow passageway across at the close of the Eocene; but even this ephemeral connection has not been definitely proven. In a footnote the opinion is expressed that the Tehuantepec isthmus, composed of cretaceous rocks, has "remained land since its earliest origin."

The conclusion in this connection seems to be that the Central American and Mexican region has been above water at least since the close of the Tertiary. This is of special importance to the students of the Glacial epoch, inasmuch as a subsidence of a portion at least of the Central American region, and a consequent cessation of the Gulf Stream, has been postulated, on purely hypothetical grounds, to explain climatic changes in the northern portions of America and Europe. The antiquity of Central America is also of much interest to biologists, since it is in harmony with the well-known differences in most of the marine species in the waters it separates.

Much information is recorded by Hill in reference to the rocks of the isthmus, the geological structure, the decay of the surface material under a warm climate with excessive rainfall, etc. The appendices contain the following reports on the collections brought home: invertebrate fossils, by W. H. Dall; foraminiferal deposits, by R. M. Bagg; and igneous rocks, by J. E. Wolff.

The report is illustrated by three instructive sketch-maps in contours, which unfortunately are without titles or scales, four sheets of profiles and sections, and twelve reproductions of photographs, several of which illustrate scenes along the Panama Canal.

ISRAEL C. RUSSELL.